

REPORT

25X1A

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(LISTED BELOW)

SUPPLEMENT TO
REPORT NO.

25X1X

3. Chemical analysis of the sample has revealed the following composition:

Co	W	Fe
.09	Trace	to make 100%

- c. Many very small chromium aluminate inclusions and a few chromium silicate inclusions were found.

5. Conclusions drawn from this examination are as follows:

- a. The composition of the sample conforms closely to that of USA stainless steel type 307, which is normally made within the following composition limits:

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25X1A

SECRET

SECRET

- 2 -

C	.07-.15	S	.03 maximum	Ni	9.0-10.5
Mn	3.75-4.75	Si	.25-.60	Fe	to make 100%
P	.04 maximum	Cr	19.5-21.5		

- b. The quantities of "tramp" molybdenum, copper, tin, lead, cobalt, and tungsten found in the sample are within normal limits for USA type 307 stainless steel.
- c. The quality and grain size of the material were normal by US standards.
 - (1) The structure and tensile strength correspond to a stainless steel in annealed condition or annealed and lightly cold drawn. It is estimated that drawing was not carried beyond 5 per cent reduction of area.
- d. The pits on the wire surface suggest that at some stage in its production the wire was heavily scaled and suffered some inter-granular oxidation.
- e. The use to which this wire was put at the site of its acquisition is not clear.
 - (1) Type 307 stainless steel is customarily employed in the USA as a core wire for coated, welding electrodes used to weld high-strength, low-alloy steels. This type of electrode has been widely used in the USA for welds on armored vehicles. The sample showed no evidence of flux coating, however, and may have been used for some other purpose.
 - (2) The sample is not desirable by USA standards for use as high-tension electrical conductor.
 - (3) Steel of this type would not normally be used in the USA for high-tensile strength applications. Instead, USA practice would call for steels of type 302 or 304.
 - (4) The strength of the sample falls well below 175,000 psi which is normally a limit in USA practice for 0.250" diameter spring wire.

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25X1A

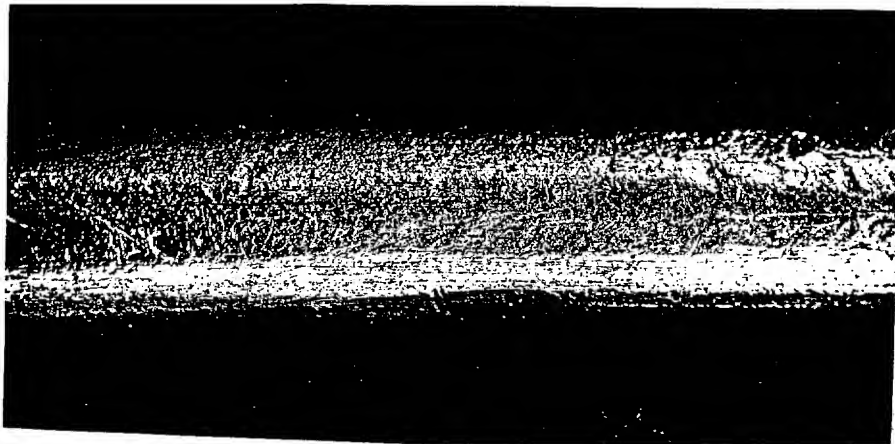


Figure 6. High Tension Wire

Magnification 5 X

25X1A

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